

Visualizing the Value of IT

*...People, Technology,
Services, and Processes*

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The Spellings Commission

“What we have learned over the last year makes clear that American higher education has become what, in the business world, would be called a mature enterprise: increasingly risk-averse, at times self-satisfied, and unduly expensive.”

*A Test of Leadership: Charting the future of
US Higher Education*



Perceptions of IT...

- ❑ Is information technology...
 - ❑ A solution to the challenges that higher education faces;
 - ❑ A contributor to the needed answers; or
 - ❑ Just another cost and yet another cost center?

EDUCAUSE “Grand Challenges” Initiative

*Brian L. Hawkins,
Annual Conference, 2006*

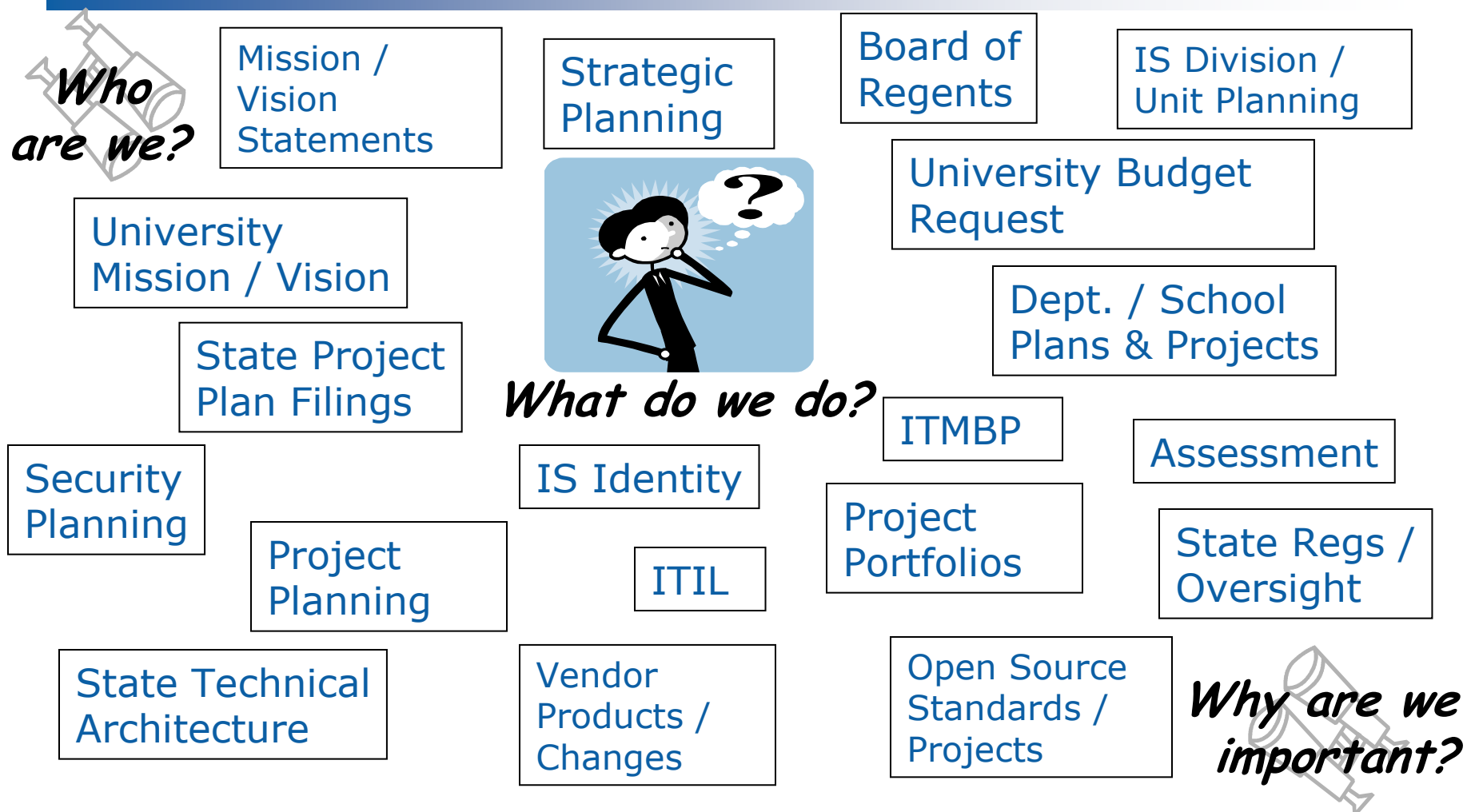


KU Provost's Challenge

- ❑ Questions posed to all KU departments:
 - ❑ Who are you?
 - ❑ What do you do?
 - ❑ Why is it important to KU?



Finding the Answers for IT...





Where to Begin? Finding Models

- ❑ Need a systematic approach to answering questions about who, what, why, how, and where?
- ❑ Many models are available, but how can they work together to give a more complete picture?

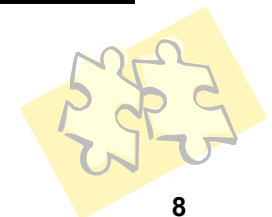
“You can’t redesign your system by dividing it into parts;
everyone must look at the whole together.”

Peter Senge (1994), *The Fifth Discipline Fieldbook*



Models for Higher Education & IT

Who are we working with?	➡	Business Partners Model
Why are we doing it?	➡	Value Chain Model
What are we doing?	➡	Application Maps, Service Catalogs
How do we manage the process?	➡	ITIL Services Model
Where are we going?	➡	Strategic Planning
How do we assess our progress?	➡	Assessment (TechQual+)



Who Are We Working With?

Enterprise Business Partners Model

- ❑ Business Partners Model identifies the different organizations, groups, and individuals that the organization interfaces with during normal business operations.
- ❑ It articulates the different inputs that each organization receives from each business partner, and ...
- ❑ ...the outputs that each business partner receives from the organization.

Who are we working with?



Why Use a Business Partners Model

- ❑ Simple, usable model
- ❑ Shows communication streams
- ❑ Looks at communication in relation to the business
 - ❑ who are the contacts during normal business operations
 - ❑ what information is important to each group

Who are we working with?



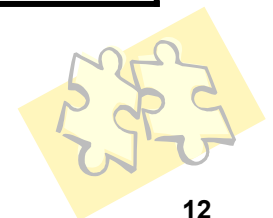
KU Enterprise Business Partners Model

Business Partner		INPUT	→	AGENCY
		OUTPUT		
Students		Tuition Payments, Coursework, Enrollment Requests, Applications, Financial Aid Requests	→	University of Kansas
	←	Bills, Grades, Enrollment Info, Transcripts, Financial Aid Information/Awards, Education, Student Environment		
Parents of Students		Tuition Payments, Financial Aid Information	→	
	←	Bills, Student Environment		
General Public		Requests for Information & Service	→	
	←	General information on the University, Research Information, Service		
System Vendors		Software Applications, Hardware, Bills, Bids, Contracts, Licenses, Documentation, Training	→	
	←	Requests for Proposals, Fix Requests, Payments		
Data Vendors		Bills, Bids, Contracts, Licenses, Documentation, Training, Data Access, Books, Journals	→	
	←	Requests for Proposals, Fix Requests, Payments		
Other Kansas Universities		Shared Planning Information	→	
	←	Shared Planning Information		
State Agencies		Planning Information, Payroll Information, Regulations & Policies	→	
	←	Research Information, Planning Information, Reports, Service		
Contractors		Bids, Invoices, Status Reports	→	
	←	Requests for Bids/Proposals, Contracts, Plans, Change Orders, Payments		
Federal Agencies		Research Grants, Financial Aid Funds	→	
	←	Research Proposals, Reports, Compliance with Federal Regulations		



Models: What's Next?

Who are we working with?	→	Business Partners model
Why are we doing it?	→	Value Chain Model
What are we doing?	→	Application Maps, Service Catalogs
How do we manage the process?	→	ITIL Services Model
Where are we going?	→	Strategic Planning
How do we assess our progress?	→	Assessment (TechQual+)





Why Are We Doing It?

- ❑ Need a practical model to determine how IT adds value to:
 - ❑ Higher Education in general
 - ❑ Our University in particular
- ❑ Need a model that provides a:
 - ❑ High Level Business Model Focus
 - ❑ View University's business goals as one enterprise
 - ❑ View overall processes rather than units & departments
 - ❑ Way to rationalize / prioritize applications and services
 - ❑ Performance Feedback / Assessment Model

Why are we doing it?



Enterprise Value Chain Model

- ❑ Porter's Value Chain Model
 - ❑ Created by M.E. Porter
 - ❑ *Competitive Strategy*, New York: The Free Press (1980)
 - ❑ Competitive advantage is based on cost or differentiation or both
- ❑ Breaks down an industry or organization into a series of value-generating activities culminating in the total value delivered by an organization



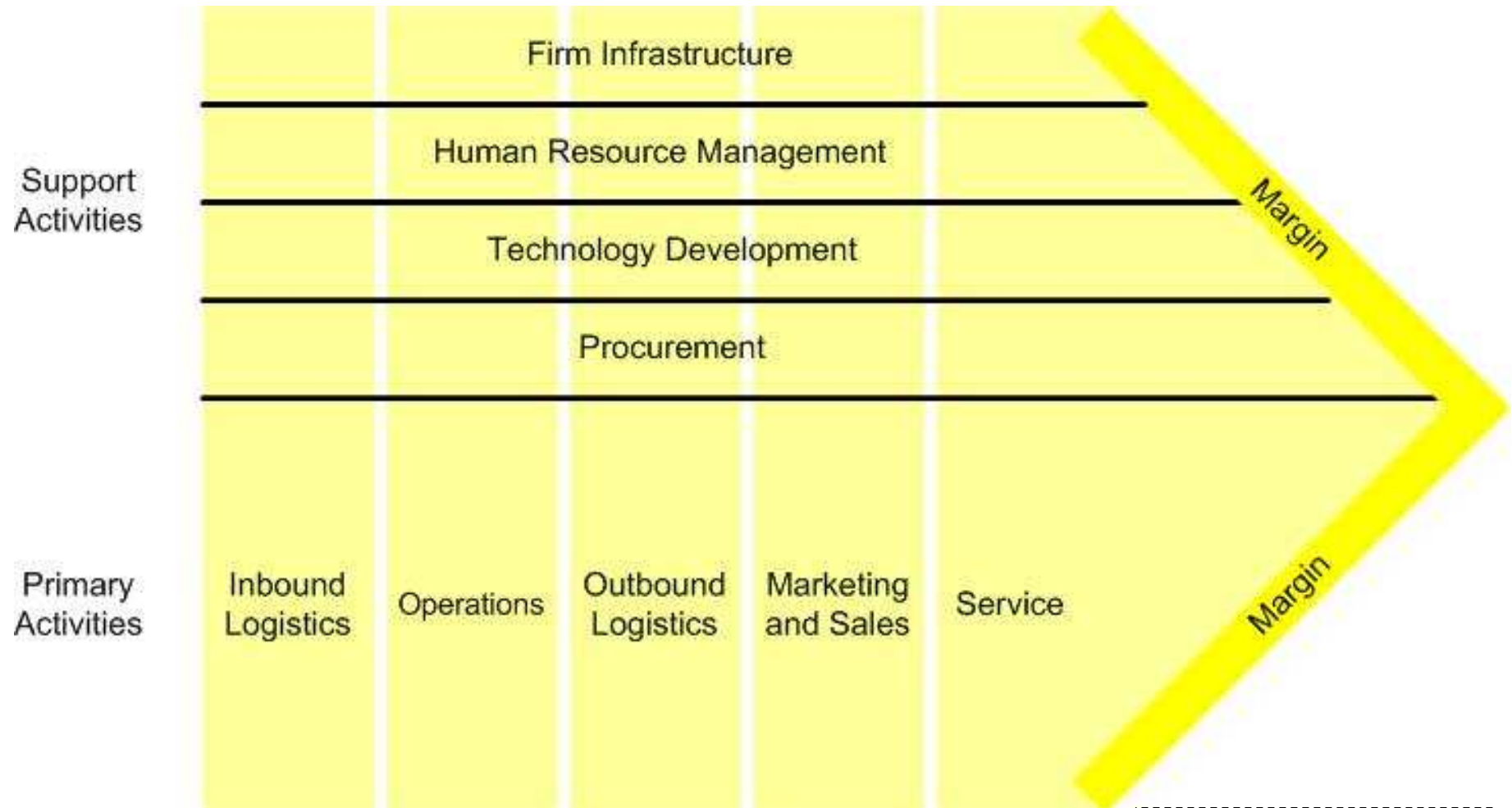
Enterprise Value Chain Model

- ❑ Uniform way of looking at all organizations, i.e. universities
- ❑ Gives organizations a better understanding of how different units function together
- ❑ Good starting point to think about how to meet goals
- ❑ Can show how IT enhances each link of the value chain
- ❑ Acts as a framework for Application Maps & Service Catalogs
- ❑ Parts of the Value Chain:
 - ❑ Primary Activities
 - ❑ Support Activities
 - ❑ Close to universal for every organization

Why are we doing it?



Value Chain: Porter's Model



Why are we doing it?



Primary Activity Components

Porter's Model	Higher Education Model	
<u>Inbound logistics</u> : receiving & warehousing of raw materials; distribution to manufacturing as needed	Admissions Enrollment	Research Proposals Grants
<u>Operations</u> : process of transforming inputs into finished products and services	Instruction Counseling	Research Research Admin.
<u>Outbound logistics</u> : warehousing and distribution of finished goods	Graduation Placement	Publication Performance
<u>Marketing and Sales</u> : identification of customer needs and generation of sales	Recruitment	Technology Transfer
<u>Service</u> : support of customers after products and services are sold to them	Academic support Service to Community Alumni support	



Primary Activities: Other Aspects

- ❑ Process Management
- ❑ Core Activities:
 - ❑ Teaching
 - ❑ Research
 - ❑ Service
- ❑ Quality Management (*of Core Activities*)
- ❑ Product Information (*University Infrastructure Assets*)

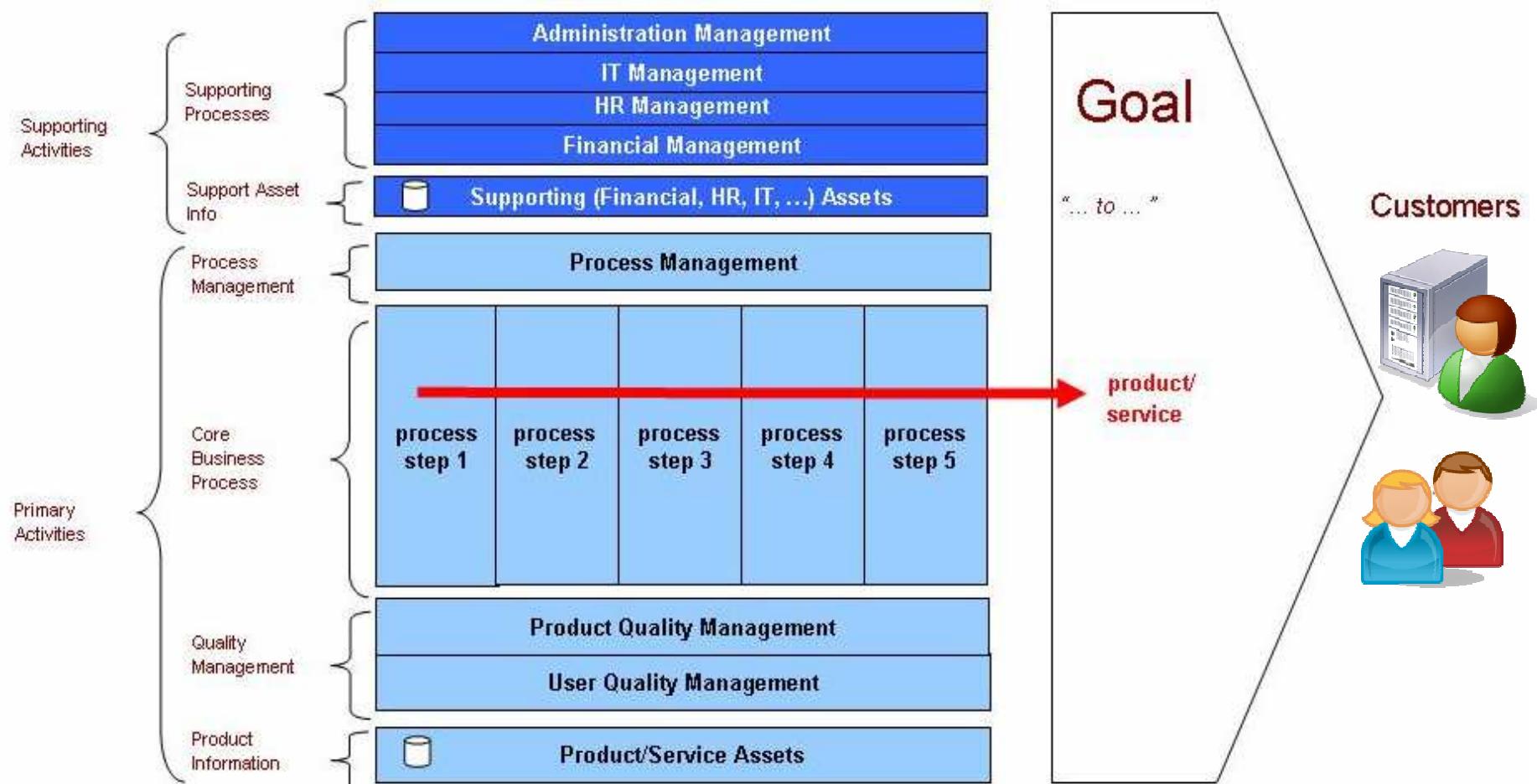
Why are we doing it?



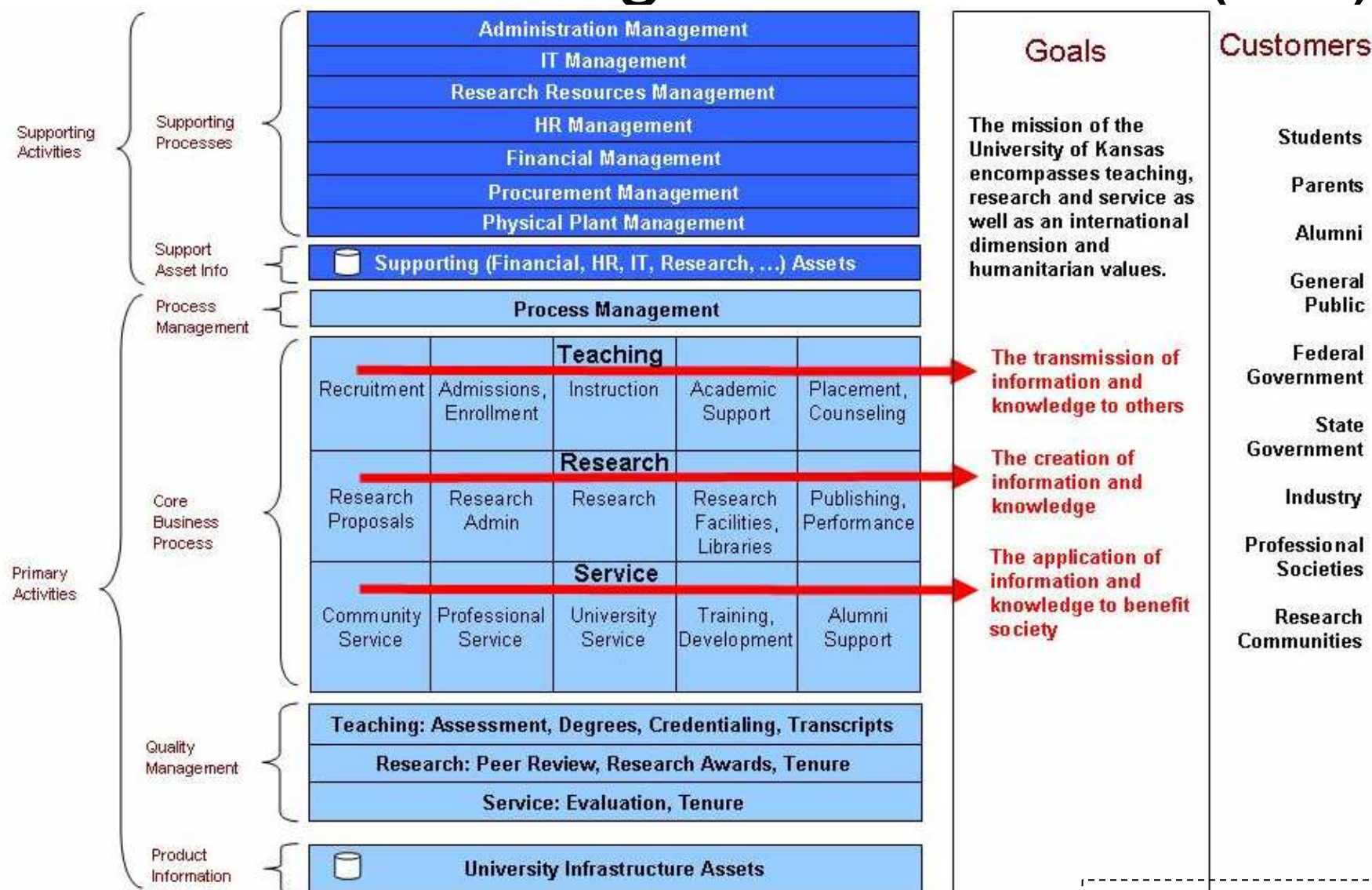
Support Activity Components

Porter's Model	Higher Education Model
<u>Firm Infrastructure</u> : organizational structure, control systems, company culture, etc.	Administration Management Financial Management
<u>Human Resource Management</u> : employee recruiting, hiring, training, development, and compensation.	HR Management
<u>Technology Development</u> : technologies to support value-creating activities.	IT Management Classroom Management Research Resources Management
<u>Procurement</u> : purchasing inputs such as materials, supplies, and equipment.	Procurement Management Physical Plant Management
	Support Asset Information

Value Chain: Template



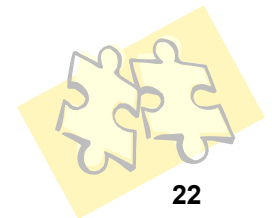
Value Chain: Higher Education (KU)





Models: Next Steps?

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What Are We Doing?

Technology and the Value Chain

- ❑ Overall, technology is playing an ever greater role in business strategy
- ❑ Technology is embedded at every link of the value chain – but not always apparent
- ❑ How do we show technology's importance to the value-generating activities of our organization??
How do we concretely show the value?

An Enterprise Application Map

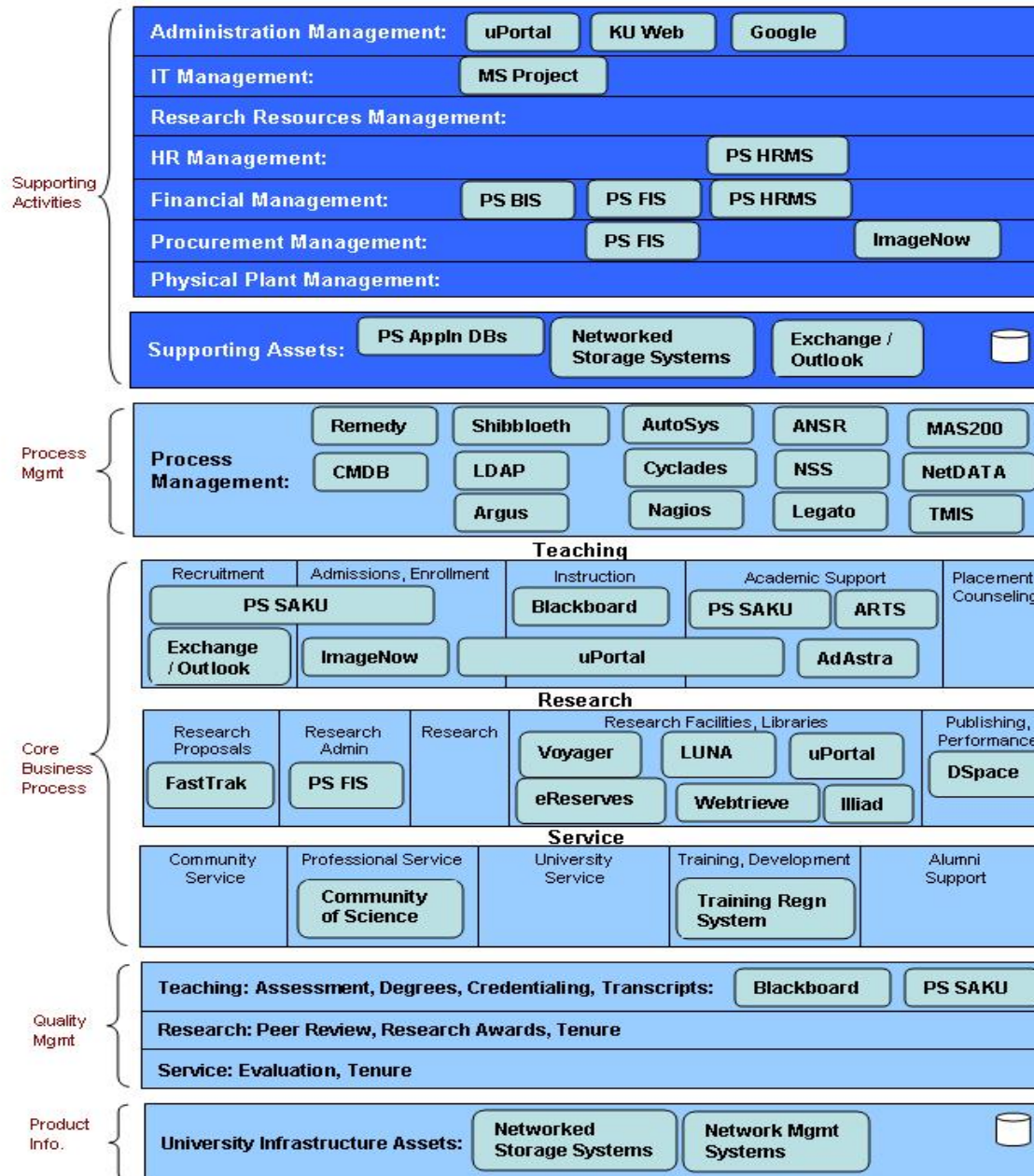


Enterprise Application Map

- ❑ Enterprise Application Map - an extension of the value chain
- ❑ The Application Map seeks to categorize the applications and systems in an organization with links on the value chain.
- ❑ It is:
 - ❑ A business and technology hybrid model
 - ❑ High-level

What are we doing?

University of Kansas Enterprise Application Map (Draft)



- Each application / system / etc. is placed on the appropriate area of the value chain
 - If it is used in multiple different functions, then put it in all of them that apply
- Really not much more to it than that - creating the value chain is the biggest hurdle

What are we doing?



Why an Application Map?

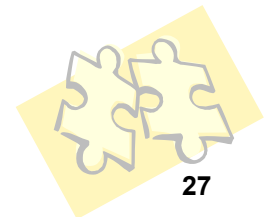
- ❑ Allows units to see where each specific application fits in relation to the high-level business areas in the organization
- ❑ Helps find gaps where IT does not have any / adequate applications in a particular business area
- ❑ Helps show how pervasive technology is in the organization
- ❑ Can be used to illustrate justification for IT spending
- ❑ Starts the process to visually see IT / Business alignment

What are we doing?



Models: Where to Next?

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Application Lists and Service Catalogs

- ❑ Historical approach to meeting individual / unit needs → separate applications (*Application lists*)
- ❑ ITIL Process Models
 - ❑ Recognizing interconnections between applications across the organization
- ❑ ITIL Service Catalog concept
 - ❑ Moving from Applications lists → Services lists
 - ❑ Merges value to campus with application groups through operational and service level contracts

What are we doing?



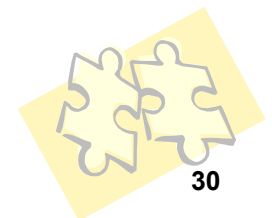
How Do We Manage It?

- ITIL service management concepts
- IT Portfolio management concepts



Models: Almost There...

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Where Are We Going?

Strategic Planning Process

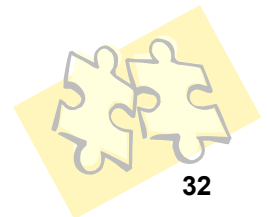
- ❑ Using these models, it becomes easier to focus on core institutional services and how IT can contribute
- ❑ Highlights gaps in services
- ❑ Provides foundation for strategic directions
- ❑ Provides basis for new service proposals

Where are we going?



Models: The Final Step

Who are we working with?	→	Business Partners model
Why are we doing it?	→	Value Chain Model
What are we doing?	→	Application Maps, Service Catalogs
How do we manage the process?	→	ITIL Services Model
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How Do We Assess Progress?

- ❑ When planning any assessment activity, start by considering these four guiding questions:
 - ❑ What do we need to know?
 - ❑ Who can tell us?
 - ❑ How can we get the information?
 - ❑ What will it enable us to do?
- ❑ The models discussed position IT well to answer these questions

How do we assess it?



Why Do Assessment?

- ❑ Benchmark current services and use data to improve efficiency and effectiveness.
- ❑ Measure users' perceptions and satisfactions with services.
- ❑ Establish what services and resources are needed and desired.
- ❑ Increase dialogue with users.

How do we assess it?



Assessment Tools?

- ❑ EDUCAUSE Core Data Service

(<http://www.educause.edu/apps/coredata>)

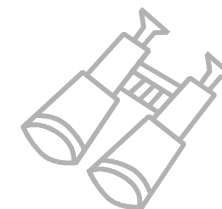
- ❑ Provides comparison data about campus information technology environments and practices to help benchmark, plan for, and make decisions about campus IT services

- ❑ TechQual+ (<http://www.techqual.org>)

- ❑ Project to develop a scientifically reliable and valid instrument that can be adopted by all institutions of higher education to conduct assessments of technology services on their own campuses.
 - ❑ Modeled on the existing SERVQUAL, IS SERVQUAL, and LibQual+ approaches

How do we assess it?

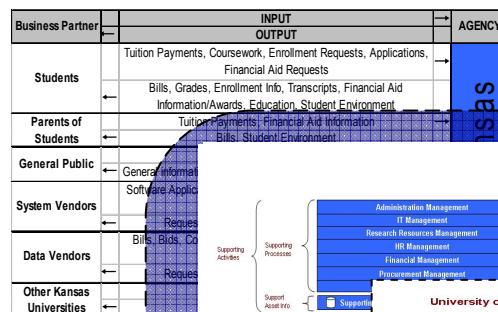
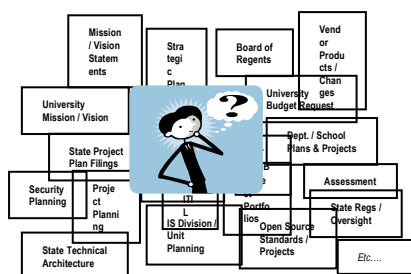
Bringing It All Into Focus...



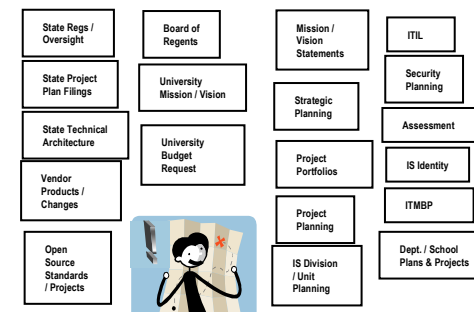
Where We
Are

People / Technology / Services / Processes

Where We
Want To Be



Value Chain



Business
Partners

Application Maps,
Service Catalogs

ITIL
Services
Overlay

- Core Data Service
- TechQual+
- Other Qualitative and Quantitative Methods

Assessment



For More Information...

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Thoughts? Questions?

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